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Eosinophilic Infiltrations in Lung.—Between 1931 and 1936 Löffler reported 51 cases in which transient pulmonary exudates existed associated with eosinophilia. He considered the condition a well defined clinical entity characterized by pulmonary infiltrations of four types: (*1*) massive areas of infiltrations simulating tuberculous consolidation, (*2*) smaller round single foci, (*3*) multiple small infiltrations in both lungs, (*4*) lobar involvement simulating abortive pneumonia. All of these were characterized by sudden appearance with complete disappearance in three to eight days. Eosinophil counts were as high as 66 per cent, averaging 10 per cent to 30 per cent. The degree of eosinophilia apparently had no relation to the extent of pulmonary infiltration. Little or no fever, few pulmonary or constitutional symptoms with few physical signs were reported. Other authors have reported cases with more severe symptoms of longer duration. Usually the infiltrations are of homogeneous density and varying size. They may be confluent and patchy in appearance or resemble lobar consolidation. Sometimes they seem to radiate from the hilum with confluent patches in the periphery. In such, complete resolution usually occurs with a few linear strands remaining. Tuberculosis or bronchopneumonia may be suspected, or it may even have some of the appearance of a stage of Boeck's sarcoidosis. Often narrow patch-like densities are seen extending caudad and laterally, and this condition may be bilaterally symmetrical. Most observers believe that the condition is allergic in origin although Löffler stressed the tuberculo-toxins. Leitner believed the infiltrates to be hyperergic in character and due to different causes, including allergy about tuberculous lesions. Most cases are benign giving little postmortem material. Meyenburg observed the postmortem findings in 4 grossly different areas of infiltrations resembling focal pneumonias. The microscopic examination in all cases showed extensive eosinophilia in the exudate. In 2 cases there was eosinophilic bronchitis and bronchiolitis. Eosinophilia of blood and bone marrow was present in all cases, while in 2 eosinophilic infiltrations of the liver were found. Harkavy recently described 16 cases, all of whom showed the usual eosinophilia and pulmonary exudates, but also described allergic history in all, pulmonary infiltration of long duration and recurrences. Clinical symptoms are not always mild and many had analagous reactions in other tissues and organs. Pleural and peritoneal exudates showed 85 per cent to 100 per cent eosinophils. X-ray findings may thus be attributed to reactions in lungs and pleura analagous to wheal formation in skin. In this way the scattered and oblique plate-like areas can best be explained.—*Roentgen Features of Eosinophilic Infiltrations in the Lungs, H. Hennell & M. L. Sussman, Radiology, April, 1945, 44: 328.—(G. F. Mitchell)*

Loeffler's Syndrome and Ascaris.—X-ray films were taken of 221 men in two military units. They ranged in age between 20 and 38. Thirty infiltrates were discovered, of which 2 were tuberculous and the remainder Loeffler's. Of the group of 28, which constituted 12.2 per cent of the total, only 9 had symptoms. The X-ray film showed normal lungs within six to twelve days. Leucocytosis was present in 3

cases, and eosinophilia of over 10 per cent in 13. Skin test with extract of Ascaris was positive in 59 per cent of the patients and in 30 to 40 per cent of the controls. In 15 cases ascaris was demonstrated in the stools. It is felt that this endemic infestation with ascaris resulted from the common kitchen, and that the Loeffler's syndrome which resulted was an allergic manifestation.—*Endemisches Auftreten eosinophiler Lungenimfiltrate in einer militärischen Einheit, O. Spühler & M. Kartagener, Schweiz. med. Wchnschr., November 4, 1944, 74: 1145.*—(*J. Gerstein*)

Loeffler's Syndrome and Ascaris.—Loeffler described the clinical picture of transient pulmonary infiltration and eosinophilia in 1932. The disease is benign, lasting eight to ten days, with slight fatigue, temperature that is normal or only slightly elevated and dry cough. Occasionally there is a clear yellow sputum with numerous eosinophils. Physical findings are few, and consist of diminution of breath sounds, crepitant râles and, rarely, a friction rub or signs of fluid. X-ray film shows a soft, flaky opacity, present on one or both sides, without definite margins unless resting on a fissure. The lesion is rarely present in an apex. The radiographic findings last three to seven days. The blood findings last two to three weeks, longer than any other abnormality. There are mild leucocytosis and lymphopenia, with eosinophilia from 7 to 85 per cent, usually between 10 to 20 per cent. Autopsy which is rare, shows a pneumonia or bronchopneumonia, with little fibrin, many eosinophils, giant cells and many small alveolar hemorrhages. Mild atypical bronchopneumonia, epituberculosis, and allergy to cold or pollens have been given as etiological factors. Müller, in 1938, and Vogel and Minning, in 1942, reproduced the symptoms of Loeffler's syndrome by swallowing ascaris eggs. They also showed that the eggs are not found in the stool for ten weeks, but may be demonstrated in five to seven weeks if an anthelminthic is given. Careful examination of the sputum reveals ascaris and giant cells. This shows that the pulmonary response is not allergic, but caused by the presence of the worm. The exact path from the intestines to the lungs is not known. It is felt that infestation with ascaris is the most common cause of Loeffler's syndrome.—*A propos de l'infiltrat pulmonaire fugace avec éosinophilie sanguine et de son étiologie le plus souvent vermineuse, F. Cardis, Schweiz. med. Wchnschr., February 24, 1945, 75: 165.*—(*J. Gerstein*)

Pulmonary Acariasis.—In view of the attention recently directed to the possible significance of mites in the causation of certain pulmonary disorders such as asthma, bronchitis and "eosinophil lung," the author thought it of interest to describe an autopsy performed on a Macacus monkey in 1933. Small nodules were noted scattered through the lungs. On teasing out some of the nodules minute arthropods were found—they were identified as mites belonging to the genus *Pneumonyssus*. Microscopically the nodules consist of capsules, the walls of which are composed of cellular granulation tissue. The lumen of each capsule is lined by epithelial cells and usually contains an arthropod lying among cellular detritus. The tissue comprising the walls of the capsules consists of fibroblasts, leucocytes, eosinophils, plasma cells and endothelial cells. The nodules are generally in close proximity to bronchioles, but in no instance could direct continuity be detected between a bronchiole and the lumen of a capsule. This demonstration might be held to lend strong support to the concept of pulmonary acariasis in man. However, it is not improbable that these mites may normally exist as ectoparasites on the skin of the host. Nevertheless, if man be exposed to environmental conditions resulting in the aspiration of extraneous mites, it would be reasonable to suppose that, as in monkeys, structural lesions may ensue. That such lesions may give rise to symptoms is quite conceivable.—*Pulmonary Acariasis in Monkeys, L. I. Davis, Brit. M. J., April 7, 1945, 1: 482.*—(*D. H. Cohen*)

Tropical Eosinophilia.—Eosinophilia with pulmonary disease is not a disease entity. It

has been described under many names, and as being secondary to different, widely divergent, etiological causes. Recently it has been seen more frequently in men who were invalided back to England from protracted stays in India. Five cases were observed recently. The illness was characterized by a symptomatology which most often suggested bronchitis, and usually they were so diagnosed originally. Blood eosinophilia varied from 9 to 32 per cent. Two cases showed fairly characteristic X-ray opacities such as have been described, but the other 3 cases had negative chest films. The disease was subject to exacerbation and a decisive therapeutic result was obtained with six injections of neoarsphenamine. No pathogenic parasite was recovered from any of the body secretions and the belief that the syndrome is an allergic manifestation due to a variety of allergens is reiterated.—*Tropical Eosinophilia, J. Apley & G. H. Grant, Lancet, June 30, 1945, 248: 813.*—(*H. Marcus*)

Sarcoidosis and Tubercle Bacilli.—Since the advancement of the term *lymphogranuloma benignum* by Schaumann for Boeck's sarcoidosis arguments have been advanced both for and against the assumption of the tuberculous etiology of this disease. Important arguments have been advanced for the tuberculous etiology "by the not so few cases revealing a development of *lymphogranuloma benignum* into a classic caseating tuberculosis." The experimental work of Lemming, Kveim and Kallos has given new and important support to the contention that tuberculosis and *lymphogranuloma benignum* are different phases of the same disease. An additional contribution was made by this author in a case of simultaneous *lymphogranuloma benignum* and tuberculosis of the lungs. A suspension of the patient's own tubercle bacilli was injected intracutaneously and after a month a productive reaction having the histological picture of Boeck's sarcoid was produced at the site of injection, thus leading to the conclusion that Boeck's sarcoid is in reality noncaseating tuberculosis.—*Boeck's Sarcoid, Experimentally Produced by Virulent, Human Tubercle Bacilli in a Case of Schaumann's Disease, L. E. Warfvinge, Acta med. Scandinav., 1943, 114: 259.*—(*E. R. Loftus*)

X-ray Therapy of Boeck's Sarcoidosis.—The cause of sarcoidosis and its relationship to tuberculosis remain in dispute. However, practically every organ or system may be involved and, regardless of location, the histological appearance of the disease is uniform. Because of this appearance, pathologists are prone to classify the disease as hyperplastic or noncaseous tuberculosis. The most frequent sites are probably the mediastinal lymph nodes and pulmonary tissues. Here X-ray is important in the diagnosis as cutaneous or other extensive manifestations as well as clinical signs may be absent. Enlargement of mediastinal lymph nodes is an invariable feature, the pulmonary involvement varying in appearance. Because of the usually benign nature of the process and the tendency to spontaneous recovery over periods of time, it may never be possible to obtain tissues for microscopic study, and the diagnosis must often remain presumptive. Treatment has been empirical and has included many agents and drugs. Roentgen-rays and radium have been successful in treatment of skin lesions, especially in the Darier-Roussy type and also in the Boeck lesion. Evaluation of treatment is difficult because of the tendency to spontaneous recovery. While earlier workers found X-ray of little benefit, later reports of treatment of enlarged lymph nodes and pulmonary disease have been favorable. In order to obtain definite and current opinion, the authors sent questionnaires to 33 radiologists in the United States and Canada. According to the answers, very few patients have received roentgen therapy. Most of the radiologists have no experience with it, and some advised against it. In the past two years 14 patients have been treated by roentgen-ray for chest lesions of Boeck's sarcoidosis at the State of Wisconsin General Hospital. Eight have been observed long enough to warrant preliminary conclusions. Six of the 8 have shown definite X-ray evidence of improvement. Two cases were

followed for twenty-two and twenty-three months before treatment was started and showed consistent progression of disease. Clinical improvement preceded objective evidence of improvement in the 6 cases showing improvement. This was noted two to four months after treatment was started. Of the remaining 2 cases, one showed improvement after five months and one failed to return for follow-up. The method of treatment was six exposures of 150 r to the anterior and posterior mediastinum (15 x 20 cm. port), one area daily, using 175 kv, half-value layer equal to 1.05 cm. Cu. The patient was given a second series in six to eight weeks using same factors. Two patients received a third series after a two-month interval. Other lymph nodes involved usually received 3 x 150 r daily or every other day, repeated once or twice at one to six weeks. Cases are reported in detail. Most of the patients were females and belonged to the middle-age group. Two cases were proved by biopsy. The others were diagnosed by X-ray only. No relationship between the type and the severity of involvement, duration of disease and response to treatment can be established. It is felt that more observation and further studies are necessary to determine the efficacy of the treatment proposed, but radiologists are encouraged to give this treatment a trial.—*Roentgen Therapy of Boeck's Sarcoid, E. A. Pohle, L. W. Paul & E. A. Clark, Am. J. M. Sc., April, 1945, 209: 503.*—(*G. F. Mitchell*)

Sarcoidosis.—A case of Boeck's sarcoidosis is presented with several interesting features: Onset at the age of 10, the disease persisted for thirty-four years. There was no hypertrophy of lymph nodes and the tuberculin skin test was positive. There were hypertension and albuminuria, which possibly were due to a renal localization of the disease. The diagnosis was made on the basis of a histological examination.—*Maladie de Besnier-Boeck-Schaumann, lésions cutanées et pulmonaires d'apparence tuberculeuse, J. Vidal, H. L. Guibert & M. Girard, Rev. de la tuberc., 1943, No. 4/6, 8: 58.*—(*G. Simmons*)

Atelectasis in Epistaxis.—Bronchial obstruction is by far the most important cause of pulmonary atelectasis. Tumors and foreign bodies are the main causes of such obstruction. Blood, as one of the foreign bodies involved, is usually present as a result of hemoptysis. The author describes a case of atelectasis due to epistaxis. The patient was in good health, with no opiates having been used. The epistaxis was due to a drying of the nasal mucosa with crust formation and dilation of the septal vessels. This is believed to be the first case of the kind described in the literature.—*Lungenatelektase bei Epistaxis, M. Kartagener, Schweiz. med. Wchnschr., January 20, 1945, 75: 62.*—(*J. Gerstein*)

Spray in Bronchial Asthma.—Adrenalin spray was first used in asthma in 1910, with further development by Stäubli in 1913. This method did not find wide application until 1942, when Fischer showed that local effects were present on inhalation of fine spray, with droplets below 0.05 cc. in size. Voegtli and Verzár used aleudrin (isopropyladrenalin) in their experiments. In 15 patients with asthma the vital capacity twenty minutes after a two-minute period of inhalation of aleudrin showed an increase of 220 to 1,230 cc. This was an increase of 10 to 50 per cent, an average of 25. The effect lasted three to eight hours. One or two inhalations of this one per cent solution of aleudrin also produced a definite effect, with only 0.06 mg. used, but the effect was of much shorter duration. There was no evidence of any change in the respiratory rate, but there was a slight decrease in the depth of respiration. In 41 healthy students there was no change in the vital capacity under the same conditions. The effect in asthmatics was local, with no apparent general effect.—*Beeinflussung von Vitalkapazität und Atmung durch broncholytisch wirkenden Spray bei Asthma bronchiale und beim Normalen, W. Voegtli & F. Verzár, Schweiz. med. Wchnschr., May 26, 1945, 75: 457.*—(*J. Gerstein*)

Emphysema.—Most clinicians maintain that pulmonary emphysema is an irreparable

disease due to intrapulmonary degenerative changes and that its presence is of secondary importance. Alterations in type of breathing, posture and lung volume are interrelated phenomena that build a pathophysiological triad which, when established in a normal individual, is maintained as a vicious circle leading to emphysema. Changes of breathing type and posture, together with lung volumina, establish the cardinal symptoms of this disorder and manifest themselves as dyspnea, chest pain and cough with a feeling of oppression. This author maintains that normality can be reëstablished in the absence of organic disease by a treatment which normalizes the posture and the breathing movements and at the same time the size of the lungs, vital capacity and residual air volume. Essential in the treatment is the correction of posture by medical gymnastics and breathing exercises. The etiological basis of emphysema in most patients involves cough involving affections of the mucous membranes of the air passages, nasal disease with obstruction, cardiac disease or habitual postural anomalies. The author presents a survey of the abnormal types of respiration and of different postural anomalies causing a dilation of the lungs. The question of treatment and prophylaxis is touched upon. —*The Emphysema of the Lungs, Its Symptoms and Relations to Other Diseases, H. Heckscher, Acta med. Scandinav., March 17, 1945, 120: 349.*—(*E. R. Loftus*)

Bullous Emphysema.—The author presents 3 cases of emphysematous bullae of the lungs, one of which terminated fatally. His conclusions are that bullous pulmonary emphysema may appear partly as an attending phenomenon to fibrous lung disease and protracted bronchial valvular stenosis and that another group exists as a primary affection apparently not depending upon preceding or coexisting disease. The degenerated lung tissue acts as a series of valves and their mechanism functions by pressure changes upon them in the course of respiration.—*Emphysema pulmonum bullosum, P. Owren, Acta med. Scandinav., 1943, 114: 127.*—(*E. R. Loftus*)

Giant Emphysematous Bleb.—A 51-year-old cobbler, who suffered from mucopurulent expectoration, dyspnea and pain is reported. The X-ray film showed a cavity occupying the entire upper lobe down to the seventh rib posteriorly. Over this cavity, no physical signs could be heard. As differential diagnoses had to be considered: tuberculosis, bronchiectasis, lung abscess, cyst, emphysematous bleb, hydatid cyst. There was very little sputum, which was negative for acid-fast bacilli and elastic fibres. The patient was treated symptomatically. Three years later he was readmitted with the symptoms of severe alveo-bronchitis and cardiac decompensation. At this time the X-ray film showed that the cavity had completely disappeared. An autopsy was done and a retracted scar was found in the right upper lobe involving the pleura. This is explained as the remainder of a ruptured giant emphysematous bleb which was located subpleurally. Incidentally, numerous small dense nodules were found throughout both lower lung fields which looked in the X-ray like a productive type of tuberculosis. The autopsy showed that this condition was caused by nonabsorbed iodized oil which had been introduced three years previously. The lung had evidently lost its capacity of absorption.—*Enfisema ampolloso gigante simulando una amplia cavidad pulmonar, I. M. Hernandez, Arch. argent. de tisiol., January-March, 1945, 21: 130.*—(*W. Swienty*)

Pneumonoconiosis.—Pneumonoconiosis can be divided in three principal groups: silicosis and asbestosis, modified silicosis and benign pneumonoconiosis. Silicosis and asbestosis produce specific pathological lesions in the lungs. They are due to the inhalation of free silica and of asbestos dust. Modified silicosis is produced by the inhalation of a dust containing a significant amount of free silica combined with a highly concentrated nonsiliceous dust. Benign nonspecific pneumonoconiosis results from the inhalation of organic or inorganic dusts which are neither toxic, allergenic nor pathogenic. They produce fibrosis but no nodulation. Symptoms

are absent. In the group of benign pneumonoconiosis have been included baritosis and siderosis. The former occurs in baryta miners the latter in electric arc welders. Four cases of siderosis are reported which occurred in metal grinders. Silicosis was excluded by eliminating significant exposure to free silica. The grinders were employed in a dry grinding process for a bearings company. The metal ground contained about 98 per cent iron about 2 per cent alloy and not more than 0.2 per cent free silica. The abrasive wheels were composed of bakelite, carborundum and aloxite. It is impossible to differentiate the roentgenological appearance of nodulation of silicosis or the pseudonodulation of benign pneumonoconiosis from the shadows cast by many other pulmonary diseases. Detailed knowledge of the occupational history, the environmental conditions and the precise information regarding the nature, concentration and particle size of the dust is necessary in order to differentiate between silicosis and benign pneumonoconiosis. Benign pneumonoconiosis is not disabling; it produces nothing but shadows cast on a roentgenogram. —*Benign Pneumonoconiosis, E. P. Pendergrass & S. S. Leopold, J. A. M. A., March 24, 1945, 127: 701.*—(*H. Abeles*)

Silicosis in Sweden.—The author made a comprehensive study of silicosis in the industries in Sweden. Two thousand, six hundred and thirty-one workers in various industries were examined. The following classification of the material was made on the basis of the International Congress of Johannesburg: first stage: needle-head size foci; second stage: the spot-like foci are larger, the upper limit being pea size; third stage: foci larger than pea size, which fuse and form massive areas. The author made two studies in the porcelain industry (1934 and 1939). Of 1,205 employees examined, there were 614 who worked in dusty occupations. The earliest case of silicosis was observed after ten years of exposure, and the third stage after about thirty-five years. He concludes, by comparative reports, that silicosis in Sweden's porcelain industry occurs after a long period of exposure and that the disease progresses to the same extent as in other countries. There were 11 cases in which active pulmonary tuberculosis developed. His findings do not substantiate the opinion generally held that there is a high tuberculosis morbidity in porcelain workers. The incidence of silicosis in the employees of iron works was 31.3 per cent. The first stage was seen to develop after ten to fifteen years exposure and the second and third stages after fifteen to twenty years. In foundry workers, the author found that the first stage of silicosis developed in the 41 to 56 year age group, after a twenty to twenty-five year exposure. The silicosis developed so slowly that the advanced forms occur in the age group that is ordinarily ready for retirement. There were 229 cast-iron polishers examined, 81 (35.4 per cent) of whom showed silicosis. The first stage developed after five years of exposure and the third stage in ten to fifteen years. It developed in severe form in about twenty years. In this latter instance the far advanced cases were present in the most productive age group. The problem of silicosis in the iron ore mines has been present in Sweden for the past forty to fifty years, since the introduction of the machine drill. First stage of silicosis was seen to develop after a five year employment in the Lapland mines. All iron ore miners in middle Sweden showed evidence of silicosis after forty years of exposure. The author found no close relationship between tuberculosis and silicosis in the iron ore miners. Comparing silicosis in different industries in Sweden, the author found that severe silicosis occurs most rapidly in quartz-mill workers, sand streamers, drillers in quartz mines and cast-iron polishers, all of whom developed third stage silicosis before fifteen years of occupation. In oven masons and drill borers and in iron-ore miners at least fifteen to twenty years of exposure is necessary, while in porcelain workers at least twenty-five years of exposure is required for silicosis to develop. The material does not allow to draw any definite conclusions as to the rôle of tuberculosis in silicosis. Although each individual in whom a diagnosis of silicosis

was made had roentgenographic findings common to them all, each group had distinctive characteristics which are so typical that even without knowledge of the occupational history, a definite conclusion may be made as to the type of work in each case. Bronchographic studies were performed to study the topography of the bronchial tree, which is related to the contracting foci in the lung in silicosis in the third stage. The contracting centre exercises its pull on the most ventral bronchi and they are dislocated upward and anteriorly. The position of the dorsal bronchi is influenced only to a small degree. The contrast substance in the bronchi stops at the homogeneous areas, indicating that the bronchi are squeezed off in the region of the massive density. Bronchospirometric examinations were performed on 197 cases; 48 in the first stage, 68 in the second stage and 84 in the third stage. The spirometric changes in severe silicosis showed definite differences between cases in which the course of the disease is more rapid and those in which the development of silicosis is slower. In the slower development of third stage silicosis, the increase of residual air is significant and the total capacity is not greatly decreased. In the more rapid progression of the disease, the limitation of the total capacity in the third stage is marked, while the residual air is not changed. Bronchospirometric examinations in far advanced cases show that part of both lungs share in the oxygen intake and carbon dioxide output and that minute ventilation and vital capacity lie within normal limits. The author believes that respiratory insufficiency is the result of the emphysematous transformation which characterizes the advanced stage of silicosis.—*Die Silikose als Berufskrankheit in Schweden, T. Bruce, Acta med. Scandinav., Supplement 129, 1942, pp. 383.*—(*O. Auerbach*)

Zinc Chloride Smoke.—Zinc chloride smoke is said to be innocuous in the open, but its inhalation in confined spaces is extremely serious. Aside from the high temperature of the inhaled particles the hygroscopic and astringent properties of the substance are dangerous irritants in the respiratory passages. Because of the particulate nature of the smoke, damage to the lungs is relatively slight. In an accident in Malta, 70 people were exposed to zinc chloride smoke in a tunnel. A total of 10 deaths following exposure was recorded, either immediately or within a week. The immediate effects consisted of dyspnea, stridor, cough, bloody expectoration, retrosternal constriction and pain. There was pale gray cyanosis which was only partially relieved by oxygen. Outpouring of secretions was a marked feature of the illness. Two autopsies were done. These showed edema and ulceration of the tracheobronchial tree leaving large denuded areas. The lungs showed patchy bronchopneumonia and engorgement. The uninvolved lung was emphysematous, and congestion and subpleural hemorrhages were noted. The intense heat of the particles had also caused external burns. Treatment was entirely symptomatic.—*Casualties following Exposure to Zinc Chloride Smoke, E. H. Evans, Lancet, September 22, 1945, 249: 368.*—(*H. Marcus*)

Familial Spontaneous Pneumothorax.—Two brothers suffered from a spontaneous pneumothorax at the age of 36 years. One sustained a sudden left pneumothorax during an attack of what was thought to be influenza and tonsillitis. He developed slight fever and on fluoroscopic examination a total collapse of the left lung was found with a small amount of fluid in the costophrenic angle. All laboratory and clinical investigations to determine the origin of his infectious state were negative. The lung reëxpanded completely in two months. This patient had been under observation for several years before this accident. In none of the X-ray plates before and after the spontaneous pneumothorax could any pulmonary lesion be found. The brother suffered for one and one-half months of slight thoracic pains which could at first not be localized but which finally settled in the base of the right hemithorax. An X-ray film showed a small marginal pneumothorax on the right which was notable for the complete

absence of any adhesion. The lung tissue was completely transparent. There was a small amount of fluid in the costophrenic angle. He had neither dyspnea nor cough and recovered within six weeks, during which time he had a slight elevation of temperature. This patient also had had previous and repeated X-ray films after the accident. All proved to be completely negative. A few cases of idiopathic familial spontaneous pneumothorax have been described in the literature. In some of them the pneumothorax has lasted as long as twenty years. Generally, a complete absorption of pneumothorax air takes place in six weeks. The concept that every spontaneous pneumothorax is caused by tuberculosis must be abandoned. Almost all cases of spontaneous idiopathic pneumothorax are in male patients. The intrapleural pressure generally remains negative and, if positive, does not reach more than plus 2 to plus 5 or rarely plus 10. The pneumothorax is produced by an accidental rupture of subpleural blebs of a special structure in the presence of a familial predisposing factor.—*Neumotorax espontaneo idiopatico familiar, H. Orrego Puelma & L. Richard B., Prensa méd. argent., July 6, 1945, 32: 1252.*—(*W. Swienty*)

Spontaneous Pneumothorax.—A 21 year old soldier gave a history of frequent mild upper respiratory infections. An X-ray film of the chest revealed no abnormality in September, 1944. In September, 1945, while he was flying for the first time in an airplane, he experienced pain in the upper right thorax. The altitude of the flight was approximately 8,000 feet. Six days later the pain was still present and the patient sought medical advice. Physical and roentgenological examination revealed 60 per cent collapse of the right lung.—*Spontaneous Pneumothorax Produced by Ascent in an Airplane, H. V. Holter & O. Horwitz, J. A. M. A., March 3, 1945, 127: 519.*—(*H. Abeles*)

Spontaneous Pneumothorax.—Pulmonary tuberculosis is thought to stand first as the exciting cause of spontaneous pneumothorax while other forms of pulmonary disease may result in spontaneous pneumothorax. It also occurs in apparently healthy persons and as the result of extrapulmonary conditions. However, it is considered rare as a complication of pneumonia in adults, most persons assuming that pneumonia results in complications conducive to pneumothorax. A review of literature, which is scant, shows the earliest reference to this is by Van Mering, reporting 2 cases of spontaneous pneumothorax occurring in pneumonia. Various authors subsequently reported cases of pneumonia complicated by pneumothorax, a total in all of 20 cases. The author believes that it occurs more frequently than previously believed and presents reviews of 2 cases. In the first patient, pneumothorax was discovered in routine X-ray examination. The second was discovered when the patient again developed fever and examination revealed hyperresonance and diminished breath sounds. Fluid was also present. Culture was negative for any organisms. Autopsy revealed a partial collapse of the lung and also endocarditis. In neither case was there any evidence of tuberculosis. The fact that pneumothorax may be masked by the other grave symptoms of pneumonia may account for failure of more frequent recognition.—*Spontaneous Pneumothorax as a Complication of Pneumonia in Adults, E. R. Movitt, Am. J. M. Sc., May, 1945, 209: 595.*—(*G. F. Mitchell*)

Pneumothorax from Gastric Ulcer.—This condition is rare and has been reported in 25 cases to date. The usual course of events is rupture of a gastric ulcer at the cardiac end of the stomach into the peritoneal cavity with the formation of a subphrenic abscess and erosion into the pleural cavity through the diaphragm. In the present case, an ulcer in the cardia dissected through the coats of the stomach and esophagus and ruptured into the left pleural cavity without touching the peritoneal cavity. Contents of the left hydropneumothorax were aspirated and were clearly shown to be gastric juice. The patient died fourteen and one-half hours after admission to

the hospital and the findings at autopsy confirmed the diagnosis.—*Pneumothorax Resulting from a Dissecting Gastric Ulcer, P. B. Hudson, L. C. Gray & H. E. Newman, Arch. Surg., June, 1945, 50: 801.*—(*H. Marcus*)

Blast Injury.—It has been fairly well ascertained that according to their severity the lung lesions resulting from blast are: (*1*) a few small hemorrhages on surfaces of lungs; (*2*) patchy hemorrhages throughout the lungs; (*3*) complete hepatization of the lungs by hemorrhages. Further accepted is the direct etiology of blast injuries—by the wave of positive pressure acting directly on the chest wall. In this series 21 cases on nonpenetrating blast injuries unaccompanied by additional trauma were studied. It was possible to observe cases at different intervals after injury and watch their progress for a few days before sending them on to base hospitals. With few exceptions the blast—in these cases—seemed to have been sustained chiefly by the chest, and, conversely, cases of abdominal blast—not included in this series—were noticeably free from pulmonary symptoms. There was complete calm in these patients—no evidence of anxiety or overreaction. Over half the patients were unconscious for a few minutes to several hours after injury. No abnormal central nervous system symptoms or signs were noted. Dyspnea was universal—sometimes described as "tightness" and a "blown-up feeling." Rapid wheezing respirations, coughing of frothy blood-stained sputum and sometimes cyanosis were recorded. Pain was a constant feature; two types being present: (*1*) retrosternal pain, and (*2*) muscular. Cough occurred in all but 2 cases and hemoptysis in 15. Except for generalized rhonchi which cleared in a few days and a few cases of massive involvement showing dulness, diminished breath sounds and fremitus, the physical signs were sparse. Ten of the cases showed no detectable abnormality in chest films taken within a few days of injury. There was nothing specific about the shadows of the radiologically positive cases; they were unilateral in some instances, bilateral in others; and varied from increased density to the appearance of massive consolidation. All opacities were in the middle and/or lower zones, situated for the most part centrally. The shadows were confluent and not patchy. There seemed to be little correlation between the severity of the symptoms and the amount of damage as revealed by X-ray films. Of the 15 cases with hemoptysis only 6 showed radiological changes. Considering this discrepancy it seems possible that the source of bleeding in those patients with clear films may be bronchial. Treatment should be for the symptoms—rest and physiotherapy for the muscular pain.—*Blast Injury to the Lungs—Clinical and Radiological Findings and Their Relation to Certain Symptoms, G. R. Fearnley, Brit. M. J., April 7, 1945, 1: 474.*—(*D. H. Cohen*)

Right Heart in Pulmonary Disease.—It has been stated that fully 10 per cent of all cases of chronic cardiac failure are secondary to disease of the respiratory system. Electrocardiographic evidence of right ventricular preponderance, of hypertrophy of the right heart, of insufficiency of the right coronary artery should immediately stimulate an investigation of the lungs. Pulmonary functional damage is not always demonstrable in the X-ray film, and in the absence of obvious mitral or congenital heart disease, the respiratory tract must be held responsible for the alterations of the right myocardium. Abnormal resistance in the lesser circulation is the immediate precursor of right cardiac hypertrophy, right coronary sclerosis and myocardial insufficiency. This picture is frequently well developed in young people in whom a rheumatic etiology is sought for in vain. Inasmuch as no demonstrable cardiac hypertrophy may accompany this picture of right heart failure, the recognition of the electrocardiogram of right heart strain and insufficiency is of extreme importance to the clinician in diagnosis and prognosis.—*Myokardschädigung des rechten Herzens als Folge Pulmonaler und pleuraler Affektionen, E. Attinger, Schweiz. med. Wchnschr., November 3, 1945, 75: 969.*—(*H. Marcus*)

Infarct Cavities.—Although pulmonary infarction in the course of cardiac disease or postoperatively is not uncommon, necrosis of the infarct with cavity formation is rare. In 104 cases of pulmonary infarction which came to autopsy, only 6 cavities were found. Predisposing causes for the formation of cavity are the size of the infarct, which is usually large, location in the upper lobes, and preexisting disease of the pulmonary arterial system, such as arteriosclerosis, arteritis, or changes due to chronic interstitial pneumonia. Pyogenic infection of the infarct by the bronchial route is the final and decisive factor. Clinical diagnosis of infarct cavity is difficult. The patients are usually desperately ill. It is difficult to get a good X-ray film, and hardly ever is the patient well enough to sit up, so a fluid level in the cavity might be demonstrated. The outcome is that of the primary disease, and therefore often fatal. Histologically the cavities are large, cone shaped, with the base of the cone at the pleura and the apex to the hilum. Four distinct layers may be recognized. The inner necrotic layer contains elements of lung tissue, and the elastic framework of the lung can be recognized. Around this a leucocytic collar is usually seen, then a layer of granulation tissue, and a surrounding area of pneumonia. The main pulmonary arteries are plugged by emboli.—*Ueber die Infarktkaverne der Lunge, M. Aufdermaur, Schweiz. med. Wchnschr., November 18, 1944, 74: 1191.*—(*H. Marcus*)

Bronchogenic Carcinoma.—Bronchogenic carcinoma is one of the most frequent and important primary malignant lesions. It is second only to carcinoma of the stomach according to autopsy findings. The incidence is increasing both relatively and absolutely. Dorn estimates that of 450,000 to 500,000 individuals in the U. S. under medical care for carcinoma, 13,000 are being treated for carcinoma of the lung. Approximately 8,000 new cases of carcinoma of the lung are diagnosed each year. The greatest incidence is in males in the fifth, sixth and seventh decades. McAldowie reported a case in a 5½ months old child. Repeated inhalations of smoke produce chronic irritation of the bronchial mucosa as evidenced by the characteristic associated cough. The increased incidence of bronchial carcinoma directly parallels the increased sale of cigarettes. Pulmonary carcinoma is almost entirely a disease of the bronchi, beginning only rarely in the alveoli. It occurs more often on the right side than on the left side. In Ochsner's series of 52 pneumonectomies, the right upper lobe was involved in 25 per cent, right lower lobe in 25 per cent, right middle lobe in 3.8 per cent, the left upper lobe in 19.2 per cent, and the left lower lobe in 13.5 per cent. The region of the hilum is most frequently involved. Growth is relatively slow. Localization persists for a considerable period. Wegelin found 11 per cent with no evidence of extension even at time of autopsy. Metastasis is by direct extension, intrabronchial spread, implantation by aspiration, biopsy, or operation or by hematogenous or lymphogenous routes. Metastases constitute the most important single prognostic factor. Regional bronchial and mediastinal nodes are the most frequent sites. In Wegelin's series lymphogenous metastases were present in 81.2 per cent. Ochsner reported 3,047 collected cases with metastases as follows: 72.2 per cent to the regional lymph nodes, 33.3 per cent to the liver, 29.8 per cent to the pleurae, 23.3 per cent to the contralateral lung, 21.3 per cent to the bones, and 20.3 per cent to the adrenals. Of 116 cases reported by Ochsner, 90, or 77.6 per cent, were considered operable. Of these, 52, or 44.8 per cent, had successful pneumonectomies. The balance were explored and found inoperable. There is no typical clinical picture. The onset is usually insidious. There is often an antecedent history of respiratory infection, so-called flu, from which recovery was never complete. Cough is the most frequent symptom, occurring in from 65 to 91 per cent in various series. In Overholt's series 63 per cent had been incorrectly diagnosed by the first physician consulted. There may be no chest symptoms present or epigastric distress, anorexia, nausea, vomiting, malaise or weight loss may occur.

Expectoration is rather frequent and is especially important when associated with hemoptysis. Hemoptysis was the chief complaint in 18.9 per cent of Ochsner's series, but was present at some time in 48.3 per cent. Thoracic discomfort may occur. Dyspnea is infrequent and late. The interval between onset of symptoms and death is relatively short, from less than one month to fifteen months in the literature. The authors point out that the growth may exist for a long period before symptoms are present. The diagnosis is not difficult if suspected in every male over 40 years of age with unexplained respiratory or digestive complaints. The X-ray may be negative early because of the difficulty in differentiating hilar shadows. Andrus found X-ray gave the correct diagnosis in 58, or 90.6 per cent, of 64 cases. Bronchoscopy is the most reliable method and should give a positive diagnosis in 70 per cent because that is approximately the incidence of hilar involvement. Holinger and Hara obtained positive diagnoses by bronchoscopy in 78.4 per cent. Hilar lesions in the upper lobe bronchus may be beyond the vision of the bronchoscope. In the author's series of 52 pneumonectomies the clinical findings were positive in 100 per cent, radiological findings in 44.2 per cent, positive biopsy by bronchoscopy in 32.6 per cent. Bronchoscopy had been done in 46, or 88.4 per cent, of these 52 cases. However, biopsy was possible in only 23 of the 46 cases. Of these 23 biopsies, the diagnosis was positive in 73.9 per cent. Bronchography and examination of sputum and pleural fluid for tumor cells may also be helpful. The authors are unequivocably opposed to aspiration biopsy because of the danger of implantation metastases. They had 2 such cases in this series. Surgical extirpation is the treatment of choice. Irradiation is of little value except to relieve manifestations in hopeless cases. Pneumonectomy should be performed even if the lesion is limited to a single lobe. Preliminary pneumothorax is desirable, gradually increasing the intrapleural pressures to the positive side. This manoeuvre determines the presence, extent and location of adhesions, compresses the pulmonary bed gradually allowing the cardiovascular system to compensate. This is especially important in patients with limited cardiac reserves. Age in itself is no contraindication to pneumonectomy. Inhalation cyclopropane is the anesthesia of choice using positive pressure. A trained anesthetist is of the utmost importance. At least 1,500 cc. of blood should be available for each case. The anterior approach is preferable because it allows freedom of cardio-respiratory function. The postero-lateral approach offers the advantage that dense posterior and lateral adhesions can be divided under direct vision. Pleuralization of the bronchial stump is probably the most important manoeuvre in preventing insufficiency of the stump. Closure should be without drainage. Immediate postoperative bronchoscopy to aspirate secretions is advised. Oxygen should be given for twenty-four hours postoperatively. Early ambulation is important. Of 361 collected cases of pneumonectomies for primary bronchogenic carcinoma, 51.5 per cent are living and 48.4 per cent are dead. Of the authors' 52 cases, 22, or 42.3 per cent, are living, 57.5 per cent are dead. Of those still living, one is living eight years after operation, 1 six years, 2 five years, 2 four years, 3 three years, 1 two years, 6 one year, and 6 less than one year.—*Primary Bronchiogenic Carcinoma, A. Ochsner, J. L. Dixon & M. DeBakey, Dis. of Chest, March–April, 1945, 11: 97.*—(*K. R. Boucot*)

Bronchoscopy in Carcinoma—The increasing frequency of bronchial carcinoma and the better results of surgery as compared with radiotherapy, necessitate exact localization of the lesion. For such localization bronchoscopy is used most often and is the most exact inasmuch as it allows biopsy at the same time. The author reports a study of 308 cases which came to autopsy between 1927 and 1943. Two hundred seventy-three were males and 35 females, a ratio of 7.8:1. In 11 the primary site was unknown, in 2 the lesion was at the bifurcation, in 132 on the left and in 163 on the right. Seventy per cent were in the large

bronchi, the remainder in the periphery. Fifty-four per cent were oat cell carcinoma, 35 per cent squamous cell carcinoma and 10 per cent adenocarcinoma. Only 42 per cent were seen on direct view, This included those at the birurcation, main bronchus or stem bronchus. The remainder of those in the large bronchi had to be visualized with mirrors. —*Zur Frage der Leistungsfähigkeit der Bronchoskopie für die Diagnostik der Bronchialkarzinome, I. A. B. Cathie, Schweiz. med. Wchnschr., January 6, 1945. 75: 15.*—(*J. Gerstein*)

Disturbance of Pigmentation with Pancoast Tumor.—Disturbances of pigmentation in the presence of involvement of the sympathetic nervous system have only rarely been reported. The present report deals with a 47 year old woman who was observed for one and one-half years until she died of a superior sulcus tumor. She had typical involvement of the sympathetic ganglia and trunk, with miosis and anhydrosis. When ultraviolet radiation was given, it was noted that the affected side failed to show skin pigmentation equal to the unaffected side. The line of pigmentation was strictly limited by the midline, and although the face and neck did show some pigmentation later on, the difference on the chest and back remained marked until the time of death. This patient had extensive metastasis to the ribs and vertebral column, but in view of the fact that no corresponding large areas of loss of sensation were present, the author attributes the failure of the skin to show pigmentation following ultraviolet radiation to involvement of the sympathetic nervous system rather than to metastasis to the central nervous system.—*Über einen Fall von Pancoast's Syndrom mit neurogener Herabsetzung der Pigmentierungsfähigkeit,* G. *Lindgren, Acta med. Scandinav., June 23, 1942, 110: 445.*—(*H. Marcus*)

Pulmonary Alveolar Tumors.—Pulmonary alveolar tumors are considered rare. However, its infrequent observation may result from the difficulty of premortem X-ray and clinical diagnosis. Therefore, 6 cases of probable alveolar tumors are presented, and the differential diagnosis from bronchogenic and metastatic tumors and from infections discussed. Disease may be of predominantly nodular or diffuse form, often with widespread metastasis. Symptoms are those of pain, cough, weakness, weight loss and dyspnea. Bronchoscopy is usually negative. It may be complicated by other conditions, such as pneumonia. One case was complicated by *Torula hystolytica* infection and had predominating cerebral and meningeal symptoms. All died and microscopic sections of the tumors favored the alveolar wall as the origin of tumor. Some would dispute this, but only serial sections through the lungs would make diagnosis absolutely irrefutable. A review of literature disclosed 24 clear-cut cases from the world literature. While most of these tumors have been definitely malignant, some were borderline or histologically benign. The clinical features as reported are similar to other lung tumors, such as, cough, cyanosis, bloody sputum, chest pain, pleural effusion and, in some cases, central nervous system symptoms. Even cases histologically benign had a fatal outcome due to the extent of the involvement and secondary infections, so that the prognosis is unfavorable in the majority of cases. Unilateral diffuse monolobar tumors may be amenable to surgery or X-ray treatment. The X-ray appearance suggests the difficulty of conclusive diagnosis, because alveolar tumors may simulate bronchogenic cancer, metastatic tumor, fungus or tuberculous infection and pneumonitis. Complications, especially pleural effusion, bronchiectasis and cavity add to the confusion as they may be the direct result of the tumor or may be purely incidental. While tumor was the definite diagnosis in 5 of the 6 cases, the true character of the tumor could not be determined. Some of the older cases in literature were misdiagnosed as tuberculosis or pneumonia. The absence of fever, weight loss, progressive weakness, may favor diagnosis of tumor, but, with our present knowledge, the differential diagnosis in the majority of cases can only be made

on microscopic examination. However, in all patients with multiple nodular, apparently metastatic nodules without evidence of neoplasm elsewhere, such diagnosis should be considered.—*Roentgenologic Aspects of Pulmonary Tumors Probably Alveolar in Origin, E. F. Geever, H. R. Carter, K. T. Neubeurger & E. A. Schmidt, Radiology, April, 1945, 44: 319.*—(*G. F. Mitchell*)

Pulmonary Sarcoma.—The case history of a 66-year-old female patient is given. The onset of her illness was in January, 1944, with pain in the left chest. In May, 1944 she developed dyspnea. Roentgenological examination in June, 1944 revealed opacity of almost the entire left lung field. On bronchoscopy a gray mass was seen in the left main bronchus and the diagnosis of a polyp was made. Histological examination of the mass did not decide the diagnosis. After bronchoscopic removal of the tumor the left lung became again aerated and the patient's condition improved. One month later the symptoms had reappeared. Bronchoscopy revealed recurrence of the mass, which could not be removed completely this time. A histological diagnosis was again impossible. Pneumonectomy was considered but not done because of the age and the general condition of the patient. Six weeks later she was again bronchoscoped and on biopsy the diagnosis of fibrosarcoma was made. The patient died in December, 1944, under the symptoms of extreme dyspnea. At autopsy a fibrosarcoma was found which occluded the left main bronchus completely, and partially the orifice of the right main bronchus. There were no metastases. The rarity of pulmonary sarcoma is stressed.—*Un cas de sarcome primitif du poumon, G. L. Coté, Laval méd., September, 1945, 10: 487.*—(*G. C. Leiner*)

Metastatic Hypernephroma.—Although hypernephroma is known to metastasize to the lungs and mediastinal lymph nodes with some regularity, it is uncommon to find that the pulmonary metastasis is the presenting symptom. Only a few cases have been reported in the literature where the pulmonary metastasis caused the death of the patient and a renal tumor could be found at autopsy only. It is well known that hypernephromata may remain small yet metastasize widely. The chest X-ray film shows a picture of mediastinal lymph node enlargement which is progressive and the later development of pulmonary lesions. The differential diagnosis from malignant lymphomata is difficult, if not impossible. When it is imperative to make a diagnosis from the point of prognosis, transpleural biopsy of the mediastinal lymph nodes is suggested.—*Intrathoracic Hypernephroma Metastases Simulating Primary Pulmonary Disease, S. Radner, Acta med. Scandinav., October 28, 1942, 112: 264.*—(*H. Marcus*)

Lung in Leukemia.—Pulmonary infiltrations in leukemia were first described in 1885, after autopsy. Clinical discovery is much more difficult. Joachim and Loewe, in 1927, described a case of myelogenous leukemia, in which X-ray films taken every fifteen days showed transitory pulmonary infiltrations. Dyspnea and hemoptysis were present. On autopsy there were found subpleural nodules of myeloid tissue, 2 to 5 cm. in diameter. The author describes a case of acute myelogenous leukemia which was followed from the start, and which showed consolidation in the right upper lobe, and crepitant râles, but no symptoms referable to the lungs. This progressed until there were signs of a cavity, which was confirmed by X-ray film. On autopsy myeloblasts were demonstrated in the bronchial and alveolar walls, with occlusion of the capillaries by myeloblasts, Leukemic infiltrations were also found in the skin, buccal mucosa, myocardium, kidneys, spleen, liver, lymphatic tissue, intestines, tonsils and testicles.—*Le poumon leucémique, H. Dubois-Ferrière, Schweiz. med. Wchnschr., January 6, 1945, 75: 11.*—(*J. Gerstein*)

Hydatid Cyst of Pericardium.—Hydatid disease of the heart is observed in 0.7 to 13.6 per cent of all cases of hydatid disease. Review of the literature shows that there are only

50 cases of hydatid cyst of the pericardium. The authors present one case. A laborer of 35 years was complaining of dyspnea on exertion and circulatory disturbances which had increased during a period of three years. He had suffered several attacks of violent pain in the lower part of the right hemithorax radiating into the right arm. The X-ray revealed an opaque density in the right cardio-phrenic angle; its outline was rectangular. An oblique X-ray film showed that its location was anteriorly and above the diaphragm. It did not move with the diaphragm. The laboratory tests showed a strongly positive Casoni reaction and eosinophilia of 6 per cent. The diagnosis was based entirely on these findings. The difficulty was to localize the cyst exactly. The margin of the inferior lobe of the lung, the convexity of the liver (with perforation of the diaphragm), the diaphragm, the mediastinum and the pericardium were possible localizations. An operation under local anesthesia was done. The incision was made along the sixth rib anteriorly with resection of a portion of that rib and all of its cartilage. The cyst was visualized but no pleural adhesions were found. It was decided to leave an iodoform gauze pack to establish adhesions. Two weeks later the wall of the cyst was incised and the liquid material aspirated. The cyst was found to be within the pericardium. Its walls could not be removed completely. The opening in the pericardium was not closed. The patient has since been checked at regular intervals and found to be in perfect health twenty-one months later. At this time the electrocardiogram showed a rotation of the heart. All other findings were normal. He still had 5 per cent eosinophils and a positive Casoni reaction. From that, the author concludes that there is a metastic localization of the disease in other parts of the pericardium. In the differential diagnosis the following conditions have to be considered: (*1*) of cardiovascular origin: intrapericardial aneurysm of the aorta, aneurysm of the wall of the heart, dilatation of the left auricle, diverticulum of the pericardium, cystic pericarditis, lipoma of the pericardium; (*2*) of pulmonary etiology: hydatid cyst, bronchial carcinoma, benign tumor, hemangioma, endothelioma, melanoma, metastasis of seminoma or hypernephroma, congenital cyst; (*3*) of the mediastinum: mega-esophagus, diverticulum of the esophagus, intramural tumor of the esophagus, basal mediastinal pleurisy, neurofibroma of the pleura, ganglioneuroma, cystic teratoma, tuberculoma, leukemia, aleukemia; (*4*) of diaphragmatic and subdiaphragmatic origin: hydatid cyst of the mediastinum, diaphragmatic hernia, hydatid cyst of the convexity of the liver, hydatid cyst of the diaphragm, lipomata and fibromata; (*5*) originating in the thoracic wall: chondroma, fibroma, osteoma, abscess, hydatid cyst, extrapleural hematoma, meningocele. Pneumothorax, pneumoperitoneum and pneumopericardium are of value to establish the diagnosis. An exhaustive review of the literature is given.—*El hidatidoma pericardico, J. G. Bengochea, Rev. espan. de cir., traumatol. y ortop., May, 1945, 2: 277.*—(*W. Swienty*)

Isolation of Thromboplastin from Lung Tissue.—Thromboplastin is a term applied to any substance, or any group of substances present in the tissues which initiate or facilitate the process of clotting. In the mammal we have the thromboplastic substance furnished by the platelets of the blood and by the extravascular tissues. There is general agreement that the largest concentration is found in the lungs. The nature of this substance has not been definitely settled. The author has endeavored to isolate and purify thromboplastin from lung tissue with two main objects in view: first, the development of a method for obtaining a usable preparation of thromboplastin to control hemophilic bleeding, or for application as a hemostatic agent, or as a reagent in the determination of prothrombin times and, second, to determine its chemical nature. Although thromboplastin in sufficient purity to determine its true chemical form was not procured, the crude material obtained appeared to be a protein compound of a phospholipid. Such material from human and pig lungs, specially treated, gave sub-

stances capable of clotting hemophilic blood in one to two minutes in concentrations of 1 mg. to 15 or 20 cc. of blood. This material can be kept in dry form in CO_2 with practically no loss of potency and, after sterilizing by heat, in alkaline solution in sterile serum tubes, with very slight loss of potency. The liquid material was used intravenously without serious reactions, the pig material in a strain of hemophilic swine, and the human material in a single clinical case. In the pigs the clotting time was reduced for a period of at least four hours. After twelve hours the blood returned to its usual clotting time, but after an interval of forty-eight to seventy-two hours there was again an unexplained marked and continuing reduction in clotting time. The human case, a patient bleeding profusely from aplastic anemia, received two injections intravenously, six days apart. The first injection was followed by a chill and the second by a rise in temperature. Nevertheless, the patient was favorably affected for the bleeding from the gums, pharynx and nose ceased and the blood coagulation time was shortened for a considerable period. There was no evidence of blood regeneration and death soon followed. These findings give a definite hope that material prepared in this form might be used to control hemophilic bleeding. Further purification of this crude material showed that it was possible to remove the protein, leaving a residue with marked thromboplastic activity, the chemical nature of which was not determined.—*The Isolation of Thromboplastin from Lung Tissue, W. H. Howell, Bull. Johns Hopkins Hosp., June, 1945, 76: 295.*—(*J. S. Woolley*)

Defect of Anterior Mediastinum.—A 7-week old female infant was seen with episodes of cyanosis and rapid breathing. Roentgenological examination of the chest revealed an oblong, air-filled structure in the anterior upper portion of the right pleural cavity, which extended over behind the sternum to the left of the midline. The picture was suggestive of a congenital cyst of the right lung, communicating with a bronchus, and an anterior mediastinal hernia. Aspiration of the cyst under fluoroscopic control resulted in bilateral pneumothorax. Exploratory operation revealed an emphysematous right upper lobe, which protruded into the left chest through an extensive defect of the anterior mediastinum. Because of the poor condition of the patient the chest was quickly closed. During the following years the patient had frequent episodes of dyspnea apparently due to a valve-like mechanism in the right upper lobe bronchus which permitted air to enter and to distend the lobe. At the age of 4 an operation was performed: the mediastinal defect was closed and the right upper lobe was removed. Following that the child was completely asymptomatic.—*Defect of the Anterior Mediastinum: Successful Surgical Repair, R. E. Gross & J. E. Lewis, Surg., Gynec. & Obst., May, 1945, 80: 549.*—(*G. C. Leiner*)

Dermoid Cyst of Mediastinum.—A 32 year old woman, suffering from cough, was examined by fluoroscopy and a tumor was seen in the hilum. This did not change its shape during respiration, it had well defined, irregular contours and it was round. Its shadow was not uniform and in some places it was as heavy as the cardiac shadow. Differential diagnosis with lipomata, chondromata, fibromata, malignancies and hydatic cyst was considered. By puncture, sebaceous material was obtained. The clinical diagnosis of dermoid cyst was established.—*Quiste dermoideo del mediastino, A. P. Heudtlass & J. A. Marti, Bol. d. Hosp. F. Santojanni, 1945, 1: 169.*—(*P. B. Franca*)

Sarcoidosis and Diabetes Insipidus.—Although the occurrence of diabetes insipidus in tuberculosis is excessively rare, its occurrence in disseminated sarcoidosis is not infrequent. It is due to involvement of the posterior pituitary by specific granulomatous tissue. The symptom is transitory and tends to disappear as the generalized disease improves. In a recent case reported by the author, the superficial lymph nodes, the mediastinal lymph nodes, spleen, kidneys and myocardium were involved, and the patient also presented iritis

and parotitis. Disseminated sarcoidosis is a generalized disease of the reticulo-endothelial system probably caused by the tubercle bacillus. The fact that patients do not react to tuberculin should not be regarded as a true anergy. The response of the reticulo-endothelial system to the presence of the tubercle bacillus is apparently so prompt and vigorous that tubercle bacilli are immediately destroyed locally. Although there is some evidence to show that antibodies are produced in abundance, the theory advanced holds that they are fixed locally and that none are, therefore, available for a positive cutaneous reaction. It is not unusual to find the tuberculin test becoming positive as the sarcoidosis undergoes healing. This may be the case although there is no evidence of caseous tuberculosis anywhere in the body. Hyperplasia of the reticulo-endothelial system appears to be responsible for the hyperglobulinemia which is seen with some degree of regularity. A specific effect on the mineral metabolism by the reticulo-endothelial cells is claimed to account for the presence of hypercalcemia. There are three forms of tuberculosis which involve the lymphatic and hemopoietic systems specifically without a tendency to develop into banal progressive organ tuberculosis. Sarcoidosis represents the benign form in which the prognosis is favorable due to a good immunological balance. The second disease, generalized caseating tuberculosis of the lymphatic and hemopoietic systems, is a serious disease with an intermediate antibody response. Recovery from this disease is possible. The third form is acute tuberculous sepsis which is always fatal. In this disease the tuberculin test is also negative, but here a true anergy is present. A specific tissue response is altogether absent and the lesions are widely scattered caseous necrotic foci in which tubercle bacilli are found in great abundance.—*Diabetes insipidus bei der epithelioidzelligen Granulomatose, St. J. Leitner, Schweiz. med. Wchnschr., June 9, 1945, 75: 511.*—(*H. Marcus*)

Splenomegaly in Sarcoidosis.—A case of sarcoid is described, in which splenomegaly was great enough to be symptomatic. Splenectomy was necessary. The spleen was adherent to the transverse mesocolon and parietal peritoneum and weighed 1,700 g. The capsule showed some dilated vessels and hemorrhagic foci. The outer part of the organ no longer showed normal splenic tissue. There were large nodules of epithelioid cells, separated by lymphocytes, red cells and bundles of collagen. The epithelioid cells were clear, with pale protoplasm and ill-defined borders. There were no true Langhans cells, though occasionally there were protoplasmic masses with six to eight nuclei in the centre. The centre of the nodule was often pierced by a terminal arteriole and the margin often crowned by lymphocytes. Collagenous tissue, frequent in the internodular area, occasionally ramified through the nodules, breaking them up into small collections of epithelioid cells. In the centre of the spleen the basic lesions were the same, though the sclerosis was more wide-spread and the nodules smaller.—*Splénomégalies et maladie de Besnier-Boeck-Schaumann, L. M. Pautrier, Schweiz. med. Wchnschr., August 26, 1944, 74: 907.*—(*J. Gerstein*)

Liver in Mononucleosis and Sarcoidosis.—In many diseases valuable information can be derived from aspiration biopsy of the liver and study of the tissue after fixation in formalin. In a case of infectious mononucleosis, biopsy showed proliferation of monocytoid cells among the liver cells. The latter cells also showed some mitotic figures, and the picture somewhat resembled that of a myeloid leukemia. Repeated biopsy after three and one-half weeks showed restoration of the normal liver architecture. In 4 cases of sarcoidosis liver biopsy showed the presence of submiliary, noncaseous epithelioid tubercles in 2 instances. These tubercles were most commonly seen in the portal areas.—*Aspiration-biopsy of the Liver in Mononucleosis infectiosa and in Besnier-Boeck-Schaumann's Disease, Cornelia van Beek & A. J. Haex, Acta med. Scandinav., 1943, 113: 125.*—(*H. Marcus*)

Brucellosis of Spine.—The frequency with which brucellosis affects the bones and joints is becoming evident with improving laboratory tests and roentgenographic examinations. A case is reported which at first was considered as Pott's disease because X-ray films revealed a destructive lesion of the third and fourth vertebral bodies and the discs together with calcifications in the right lung. After the Mantoux reaction was found to be negative to 1.0 mg. of tuberculin, a series of laboratory investigations revealed that *Brucella suis* was the etiologic agent. The patient was a swineherd.—*Espóndilo-artritis brucelósica interpretada al principio como un mal de Pott, R. Posse, Rev. Asoc. méd. argent., January 15–30, 1945, 59: 38.*—(*R. Kegel*)

Erythema Nodosum.—On the basis of the literature and of the observation of 24 patients with erythema nodosum—4 of whom are described in detail—the authors draw the following conclusions: Erythema nodosum in the child is almost always of tuberculous nature. In 90 to 95 per cent of the cases it occurs at the time of the primary infection. In the young adult, it is usually seen during the course of the primary infection, rarely in reinfection tuberculosis. Many other infections and intoxications can produce erythema nodosum. When a patient with erythema nodosum is seen, tuberculous etiology should be considered first, and this diagnosis should be maintained until proved otherwise. In every patient with erythema nodosum roentgenologic examination of the lungs should be done.—*Erythème noueux et tuberculose, R. Desmeules & P. Richard, Laval méd., September, 1945, 10: 473.*—(*G. C. Leiner*)

Etiology of Erythema Nodosum.—Among the theories on the etiopathogenesis of erythema nodosum, the one considering this disease as caused by tuberculosis finds most credit at present. Its specific nature due to an unknown virus is also sustained by some, while others claim that it is an aspecific cutaneous manifestation elicited by various toxic-infective or parasitic agents. Clinical observations, positive tuberculin reactions, correlated X-ray findings and rigorously conducted bacteriological studies speak in favor of the tuberculous etiology of erythema nodosum. There are various etiopathogenetic modalities through which tuberculosis might cause erythema nodosum. Since the existence of a filtrable form of tubercle bacilli has never been demonstrated with scientific certainty, the author feels that its rôle in the causation of erythema nodosum can be discarded. The following studies purport to decide whether erythema nodosum is a cutaneous manifestation of a paucibacillary tuberculous infection with only inflammatory and nonfollicular lesions, or whether it has to be considered as an allergic phenomenon of a predominantly, or exclusively, tuberculous origin. Saenz insists on the necessity of employing only rigorously scientific procedures in the demonstration of tubercle bacilli in the expectoration, gastric contents, blood or biopsy material obtained from individuals with erythema nodosum. He rejects the results obtained by the method of "reinoculation and passage in series in guinea pigs" as inconsistent with the known facts. These studies were made on 41 children from 2 to 14 years of age, with a maximum incidence around 8 years of age, without preference for any sex. Erythema nodosum often occurs in individuals with endocrine disturbances, sometimes several members of the same family are affected and most cases are observed in the latter part of winter or in spring, a season which is favored also by tuberculous spreads. The examination of the gastric contents for tubercle bacilli resulted in positive cultures on guinea pigs in 24 cases out of 41 cases. In 21 cases with positive gastric contents there were significant X-ray findings. The demonstration of tubercle bacilli in the blood of these patients was successful in 5 cases out of 29. The relative rarity of positive blood culture is consistent with the conception of erythema nodosum as a syndrome related to the primary infection, the bacillemia in which is characterized by its early occurrence, its fugacity and by the small number of circulating bacilli. These bacteriological findings

constitute an argument in favor of the existence of bacillemia coinciding with the onset of the initial follicular lesion and the appearance of tuberculin sensitivity. Bacillemia under these circumstances has no prognostic significance. The presence of acid-fast bacilli was demonstrated only in 2 out of the 29 biopsies. It is noteworthy that the histological characters of the lesions were quite identical in both the negative and the positive biopsy cases. Much higher incidences of positive biopsies were reported by other authors, but the correctness of their method (reinoculation and passage in series in guinea pigs) is highly questionable. The fugacity, the symmetric bilateral character and the histopathological picture of the nodules, as well as the bacteriological findings, are all arguments against the assumption that erythema nodosum is a local skin tuberculosis. On the other hand, there are valid arguments in favor of the conception of erythema nodosum being an allergic manifestation of tuberculous nature. These are as follows: the possibility to produce the nodules experimentally by intracutaneous or hypodermic injection of tuberculin; the fugacity of the nodules corresponds closely to the course of an intensively positive tuberculin reaction; the multiple bilateral occurrence of the nodules is a common character of allergic phenomena; the histopathological picture of the nodules is the same observed in positive tuberculin reactions; the absence of acid-fast bacilli is the rule in all specific allergic reactions. It cannot be denied that erythema nodosum may be caused by allergens other than tuberculin. It is well to remember, however, that a negative tuberculin reaction does not exclude an allergic state: some unknown endocrine or sympathetic factors might prevent the allergic state from becoming manifest.—*El problema etiologico del eritema nudoso, A. Saenz, Hoja tisiol., September, 1944, 4: 219, and December, 1944, 4: 331.*—(*L. Molnar*)

Erythema Nodosum.—The author has observed 19 cases of erythema nodosum during the past two years. All cases occurred in women, and most of these were middle aged. This is in contradistinction to the usual incidence of the disease. All patients had a rather characteristic clinical picture starting with the complaint of sore throat. This was followed in three to five days by painful and swollen joints. The rash did not appear until the eighth to the fourteenth day of the illness. Temperature was almost uniformly high and 3 patients were critically ill. There was moderate leucocytosis with a normal differential count. Chest roentgenograms were entirely negative, but in 9 patients throat cultures were positive for hemolytic streptococci. Seven out of these 9 patients showed a high titer of antistreptococcus agglutinin. Mantoux tests were done in 5 patients, and were negative in 2 and faintly positive in 3. All patients made a complete recovery but the course was quite prolonged in some. The majority were well within two to four months, although some patients were well within three weeks. None of the patients developed evidence of tuberculosis while under observation in the out-patient department. Although the clinical picture of this syndrome is sufficiently typical to make its recognition important, it is well established that this disease does not represent an entity. It is most likely an allergic reaction which may be produced by a number of microörganisms, among them hemolytic streptococci.—*Erythema Nodosum, E. Frankel, Lancet, June 20, 1945, 248: 817.*—(*H. Marcus*)